Good Morning

- In your notes: find the molar mass of Oxygen gas.

Today

- Developing Reference Equations.
- Review of 10.1 & 10.2.
- Mole lab.

Tonight

- Study for the quiz tomorrow.
- Only on 10.1 & 10.2.
- Redo questions from Tuesday's homework.
- Go to the google site and look at the suggested Ch. 10 khan academy videos.

Reference Formulas

- Anything that is true about 1 mole of a particular substance.
- This may include the molar mass, number of particles, and volume (in the case of gases at STP.
- We will assume STP (standard temperature and pressure) is true for now.

Set Up

- 1 mole is always 6.02 x 10^23.
- 1 mole of a substance is always the atomic mass, but in grams.
- 1 mole of a gas is always 22.4L at STP (0 degrees Celsius and 1 atm)

1 mole of Salt: NaCl

- 1 mole = 6.02 x 10^23 formula units.
- 1 mole = 58.45g
- Put your into into one large equation.
- 1 mole = 6.02 x 10^23 formula units = 58.45g.

1 mole of Platinum

- 1 mole = atoms.
- 1 mole = g.
- 1 mole = atoms = g.

Applying the Reference Formula

- Identify the unknown and write it in first.
- Make 1 fraction that relates the known quantity to the unknown quantity that the problem asks for.
- Unknown on top, known on the bottom.
- Use dimensional analysis to solve for the unknown.

How many molecules of SO_2 in a 30g sample?

- Reference Formula: 1 mole = molecules = g.

- Known:
- Unknown: molecules
- DA:

How many grams in a 25L sample of CO?

- Reference Formula: 1 mole = molecules = g = 22.4L

- Known:
- Unknown: molecules
- DA:

What is the mass of 2.3 x 10^21 formula units of $CaCl_2$?

- Reference Formula: 1 mole = formula units = g.

- Known:
- Unknown: molecules
- DA:

How many moles are in a sample of 94g of Al?

- Reference Formula: 1 mole = atoms = g.

- Known:
- Unknown: molecules
- DA:

What is the mass of 15L of CH_4?

- Reference Formula: 1 mole = molecules = g = 22.4L

- Known:
- Unknown: molecules
- DA:

Mole Lab

- You will Identify the mass of a given substance.
- Mass each material as labeled on the canisters.
- The T (tare) is the mass of the canister.
- Easier to find the mass of the sample.